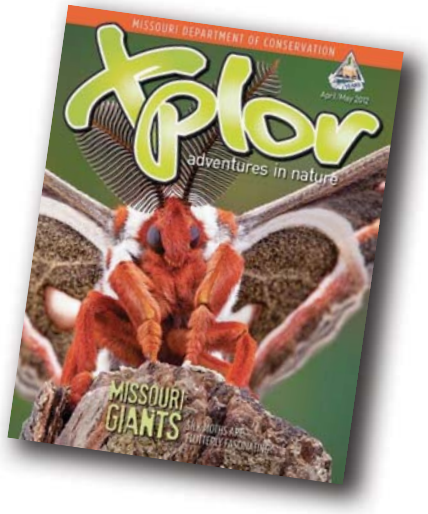
Xplor Educator Guide

Educational activities for the **April/May 2012** issue of *Xplor* magazine

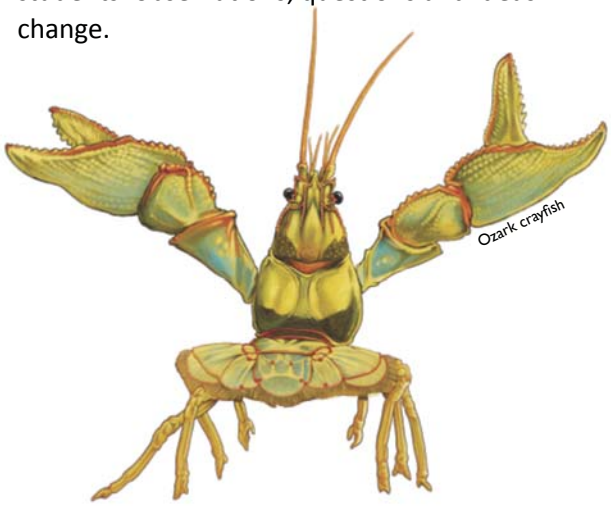


Peer at Peregrines

"You Discover" (Page 3) invites students to check out a live webcam of peregrine falcons nesting in St. Louis. The webcam offers a chance to observe birds that are rarely seen. Observation is both the start and the heart of scientific inquiry. Have students read Chapter 5 of the *Nature Unleashed* student book. Then visit **mdc.mo.gov/node/16934** and have students answer the following in their science notebooks:

- What observations can you make about the nest and the falcons?
- What questions do these observations lead you to ask?
- How might you find answers to your questions?
- Based on your observations, are peregrines herbivores, carnivores, or omnivores? Why?
- Could peregrines be scavengers? Why or why not?

Peer at peregrines periodically to see if your students' observations, questions and ideas change.



Create a Critter

"Predator vs. Prey" (Page 4) pits two animals that live in a stream against each other. The smallmouth bass has specialized structures to catch prey, and the crayfish has specialized structures to avoid becoming prey. This activity invites your students to create an imaginary animal with specialized structures to help it survive in a specific ecosystem.

Procedure

1. For background, have students read Chapter 3 of the *Nature Unleashed* student book.
2. Tell students to pick an ecosystem from Chapter 3, write its name in their science notebooks, and list characteristics of the ecosystem that make it a specific habitat.
3. Challenge students to invent an animal that has specialized structures, abilities and behaviors that help it survive in the identified ecosystem.
4. Students should draw their animal in their science notebooks and label the animal's specialized structures.

Options

- Created critters could be drawn or painted on a poster that depicts the identified ecosystem and shows how the animal interacts with other animals and plants.
- Created critters could be constructed from recycled objects, clay or other craft materials.
- Have students make a presentation about their created critter and explain how it interacts with other living things and survives in its ecosystem.

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Find Your Kind

"Giants of the Night" (Page 6) describes Missouri's silk moths and their amazing powers of communication that help them locate each other during mating time. What specialized structures, abilities and behaviors do female silk moths have that help them find mates? What specialized structures or abilities do males have that help them find mates? This activity will help your students learn how to find something the same way silk moths do—by detecting scents.

Materials

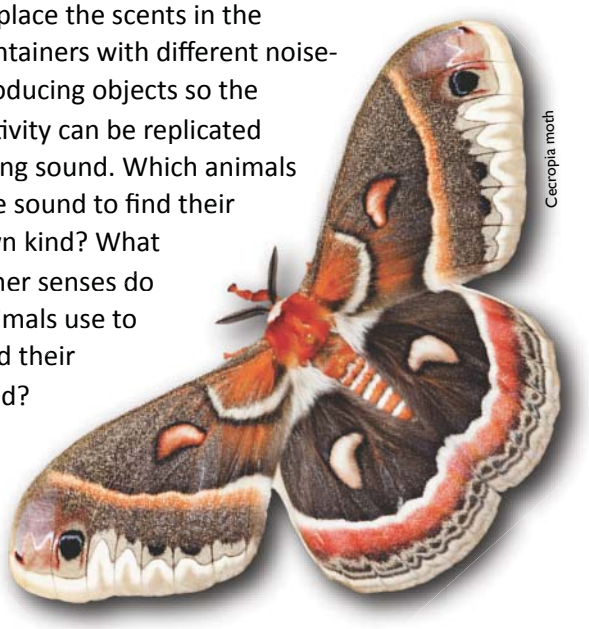
- Film canisters, margarine tubs or other small plastic containers with lids (one for each student)
- 5–10 different kinds of extracts, spices or other aromatic kitchen ingredients
- Cotton balls (one per film canister; more for larger containers)

Procedure

1. For background, have students read Chapter 3 of the *Nature Unleashed* student book.
2. Soak cotton balls in the aromatic ingredients and place them in containers. Make sure there are at least two containers for each scent.
3. Divide your students into two groups.
4. Designate one group "moth callers" and give each student a container.
5. Designate the other group "moth seekers" and give each student a container with a scent that matches a scent from the "calling" group.
6. Have the callers spread out in the schoolyard.
7. Tell the seekers to sniff their scent and remember it, then have them walk from caller to caller, checking each caller's scent to try to find the scent that matches their own. Seeking continues until all seekers have found their matches.

Options

- Make two teams of seekers and compete to see which team can find their callers first.
- Allow the callers to sniff the seekers' scents to see whether they agree with the match.
- Add additional calling scents to add challenge.
- Open the containers of the calling scents in front of a fan. Position the seekers downwind and see if they can follow the scent trail to find their match. How far downwind can a seeker go and still be successful? (Some male silk moths can locate a calling female from over 20 miles away!) Are some scents easier to match than others? Why? Besides silk moths, which other animals use scents to find their own kind?
- Replace the scents in the containers with different noise-producing objects so the activity can be replicated using sound. Which animals use sound to find their own kind? What other senses do animals use to find their kind?



Cecropia moth